Surgical Management of Palatally Placed Impacted Mesiodens: A Case Report

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Mesiodens are relatively common and can cause a variety of complications. The clinician should recognize signs and problems suggesting the presence of supernumerary teeth or mesiodens, particularly aberrations in the eruptive pattern, and perform the relevant investigations. On diagnosis, each case should be managed appropriately in order to minimize complications to the developing dentition. Mesiodens is most commonly occurring supernumerary tooth located in anterior maxilla usually seen between upper two central incisors placed labially or palatally and may be erupted or impacted. The present paper describes the surgical management of palatally placed impacted mesiodens in 15-year-old female.

Keywords: Impacted, Mesiodens, Palatal

INTRODUCTION

In pediatric dentistry, we find various tooth anomalies in size, shape, number and eruption of teeth. Some of them may be detected in routine dental checkup. However some anomalies, on the other hand, may remain impacted within the bone, without causing any sign and symptoms. These anomalies may be detected on the radiographic examination for some other problem.1 Here is such case describing the presence of palatal placed, impacted asymptomatic mesiodens without patient awareness, which was detected on radiographic examination for some other problem.

Hyperdontia is a condition of having supernumerary teeth, which are defined as extra teeth present in addition to the normal dentition number. The most commonly occurring supernumerary tooth is the mesiodens.2 The term mesiodens was coined by Balk in 1917 to denote a supernumerary tooth located mesial to both central incisor appearing as peg-shaped crown in normal or inverted position.3 A mesiodens is a supernumerary tooth located in the maxillary central incisor region; the overall prevalence of mesiodents is between 0.15% and 1.9%.4,6

Mesiodens can occur individually or as multiples (mesiodentes), may appear unilaterally or bilaterally, and often do not erupt.4 Mesiodens may be present impacted or erupted. It may remain in position for many years, without any clinical manifestations. Sometimes because of the presence of mesiodens complication like retention of primary teeth, closure of eruption path, rotation and retention, delayed eruption of permanent teeth, crowding/malocclusion, root resorption, pulp necrosis, diastema as well as nasal eruption and formation of dentigerous and primordial cyst. Less common complication includes dilacerations of developing tooth and loss of tooth vitality.1,6,8 Thus, early detection and removal of mesiodens is very important to prevent these type of complications.

CASE REPORT

A 15-year-old female patient reported to the Department of Pedodontics and Preventive Dentistry, Teerthanker Mahaveer Dental College and Research Centre, Moradabad, complaining of pain in the upper front tooth since 2 weeks. There was a history of trauma to the same tooth about 1 year back. On clinical examination, Ellis Class IV fracture was found with 21 and a palatal swelling with pus discharge in the labial vestibular region (Figure 1). Intraoral periapical radiographic examination revealed radiolucency in the periapical area of 21 and fracture involving pulp of the tooth. Surprisingly there was a small tooth like structure found close to the root apex of the two maxillary central incisors, root of the tooth found to be dilacerated (Figure 2). The proper position of this tooth was confirmed with a same
lingual opposite buccal rule, which revealed that the tooth was placed palatally. A diagnosis Ellis class IV fracture with mesiodens was made. Treatment plan of root canal treatment of 21 (Figure 3a-d), followed by fixed crown and surgical extraction was made, and extraction was done by raising palatal flap (Figures 4-7).

DISCUSSION

The first documented report of supernumerary teeth has been found in the ancient human skeletal remains of lower pleistocene era. Until recently the most primitive evidence of the presence of mesiodens goes back to 13000 years when it was found among the remains of an Australian aborigine. Although both dentitions are affected, a higher incidence of the anomaly is noted in the permanent dentition. Mesiodens may occur individually or in multiples which are termed as mesiodentes. Supernumerary teeth, which occur predominantly in the maxillary midline, are

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Figure 1: Clinical preoperative photograph

Figure 2: Preoperative intra oral periapical radiograph of teeth 21

Figure 3: Intra oral periapical radiograph of working length (a), master cone (b), obturation (c) and after post and crown placement (d)

Figure 4: (a and b) Palatal flap raised

Figure 5: Removal of mesiodens

Figure 6: Suturing
Treatment of mesiodens depends on several factors and consideration of these variables will determine whether to manage surgically or to observe the condition. The first factor is the child’s age, in the very young patient the ability to tolerate a surgical procedure is of prime concern. The benefit of early treatment must be important for the long-term effect that any unpleasant experience may have psychological effect on patient. Second is the stage of dental development of the surrounding teeth and proximity of the mesiodens to the incisors. In cases of immature root development, concern must be given to the risk of surgical trauma to the developing roots of the permanent incisors and the potential damage to the future dental development. Mesiodens that are closely positioned with the developing permanent incisors may alter the position of the permanent tooth bud, impede eruption, and/or alter root development; whereas, surgical removal of the same supernumerary tooth may cause the same sequelae with surgical trauma. In instances where the surgical approach jeopardizes the viability of sensitive developing tissue, it may be appropriate to delay treatment. Finally, the dentist must evaluate the relative position of the mesiodens within the premaxilla whether mesiodens is palatally or labially. The surgical procedure access to the supernumerary must be considered in relation to the amount of bone removal and potential damage to existing incisors. In children, eruption of mesiodens is possible and complete eruption is infrequent, some mesiodens may erupt partially and hence more favorable surgical approach may be attained with time.9,12

**CONCLUSION**

Mesiodens are relatively common and can cause a variety of complications. The clinician should recognize signs suggesting the presence of supernumerary teeth, particularly aberrations in the eruptive pattern, and perform the relevant investigations. On diagnosis, each case should be managed appropriately in order to minimize complications to the developing tooth buds and dentition.

**REFERENCES**


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